

**WHAT IS CLAIMED IS:**

1. A gain control amplification circuit arranged in a transmission circuit, comprising a gain control amplification section having at least two stages whose gains are respectively controlled.

2. A circuit according to claim 1, wherein said gain control amplification section having at least two stages comprises gain control amplifiers of IF-GCA and RF-GCA, and wherein gains of said gain control amplifiers are individually controlled.

3. A gain control amplification circuit for a terminal equipment in a radio communication system which executes communication between a base station and the terminal equipment, comprising:

a gain control amplification section having at least two stages; and

control means for controlling said gain control amplification section,

wherein said gain control amplification section is controlled by said control means to set a transmission output from the terminal equipment to a predetermined value on the basis of a reception level of a reception signal transmitted from the base station and received by the terminal equipment.

4. A gain control amplification circuit for a

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terminal equipment in a radio communication system which executes communication between a base station and the terminal equipment, comprising:

a gain control amplification section having gain control amplifiers of at least two stages; and

control means for individually controlling said gain control amplifiers,

wherein said gain control amplifiers are individually controlled by said control means to set a transmission output value from the terminal equipment to a predetermined value on the basis of a reception level of a reception signal transmitted from the base station and received by the terminal equipment.

5. A circuit according to claim 4, characterized in that said gain control amplifiers of two stages comprise IF-GCA and RF-GCA.

6. A circuit according to claim 4, wherein said control means comprises a determination circuit for determining an intensity of the reception signal, an adder for calculating a control signal on the basis of a determination result from said determination circuit, and a control voltage generation circuit for controlling said gain control amplifiers on the basis of the control signal.

7. A circuit according to claim 4, characterized in that of said gain control amplifiers of two stages, a

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range of a gain control amplifier at a latter stage is set wider than that at a former stage.

8. A circuit according to claim 5, wherein out of said gain control amplifiers of two stages, a range of a gain control amplifier at a latter stage is set wider than that at a former stage.

9. A circuit according to claim 6, wherein out of said gain control amplifiers of two stages, a range of a gain control amplifier at a latter stage is set wider than that at a former stage.

10. A circuit according to claim 4, wherein when the transmission output is to be reduced, the gain of a gain control amplifier at a latter stage is reduced first.

11. A circuit according to claim 5, wherein when the transmission output is to be reduced, the gain of a gain control amplifier at a latter stage is reduced first.

12. A circuit according to claim 6, wherein when the transmission output is to be reduced, the gain of a gain control amplifier at a latter stage is reduced first.

13. A circuit according to claim 7, wherein when the transmission output is to be reduced, the gain of a gain control amplifier at a latter stage is reduced first.

14. A circuit according to claim 6, wherein said control voltage generation circuit is a linear interpolation circuit.

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15. A circuit according to claim 14, wherein a predetermined portion of a linear characteristic in said linear interpolation circuit is used by each of said gain control amplifiers.

16. A circuit according to claim 15, wherein the predetermined portion of the linear characteristic in said linear interpolation circuit is set on the basis of an SNR of the transmission output.

17. A circuit according to claim 14, wherein said linear interpolation circuit stores a conversion value between a level of the reception signal and a gain corresponding to the level.

18. A circuit according to claim 15, wherein said linear interpolation circuit stores a conversion value between a level of the reception signal and a gain corresponding to the level.

19. A circuit according to claim 16, wherein said linear interpolation circuit stores a conversion value between a level of the reception signal and a gain corresponding to the level.

20. A circuit according to claim 2, wherein said gain control amplifiers of two stages are arranged on an input side (former stage) and an output side (latter stage) of an up converter in the transmission circuit.

21. A circuit according to claim 3, wherein said gain

control amplifiers of two stages are arranged on an input side (former stage) and an output side (latter stage) of an up converter in the transmission circuit.

22. A circuit according to claim 4, wherein said gain control amplifiers of two stages are arranged on an input side (former stage) and an output side (latter stage) of an up converter in the transmission circuit.

23. A circuit according to claim 2, wherein said gain control amplifiers comprise at least three stages.

24. A circuit according to claim 3, wherein said gain control amplifiers comprise at least three stages.

25. A circuit according to claim 4, wherein said gain control amplifiers comprise at least three stages.

26. A circuit according to claim 3, wherein the radio communication system uses a CDMA (Code Division Multiple Access) scheme.

27. A circuit according to claim 4, wherein the radio communication system uses a CDMA (Code Division Multiple Access) scheme.

28. A terminal equipment in a radio communication system, which has a reception circuit for receiving a transmission signal from a base station, and a transmission circuit for transmitting a signal to the base station so as to communicate with the base station, comprising a gain control amplification section arranged

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in said transmission circuit and having at least two stages whose gains are respectively controlled.

29. A device according to claim 28, wherein said gain control amplification section having at least two stages comprises gain control amplifiers of IF-GCA and RF-GCA, and wherein gains of said gain control amplifiers are individually controlled.

30. A terminal equipment in a radio communication system, which has a reception circuit for receiving a transmission signal from a base station, and a transmission circuit for transmitting a signal to the base station so as to communicate with the base station, comprising:

a gain control amplification circuit having a gain control amplification section arranged at least in two stages, and

control means for controlling said gain control amplification section,

wherein said gain control amplification section is controlled by said control means to set a transmission output from said terminal equipment to a predetermined value on the basis of a reception level of a reception signal transmitted from the base station and received by said terminal equipment.

31. A terminal equipment in a radio communication

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system, which has a reception circuit for receiving a transmission signal from a base station, and a transmission circuit for transmitting a signal to the base station so as to communicate with the base station, comprising:

a gain control amplification circuit having a gain control amplification section in which gain control amplifiers of at least two stages are arranged, and

control means for individually controlling said gain control amplifiers,

wherein said gain control amplifiers are individually controlled by said control means to set a transmission output value from said terminal equipment to a predetermined value on the basis of a reception level of a reception signal transmitted from the base station and received by said terminal equipment.

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